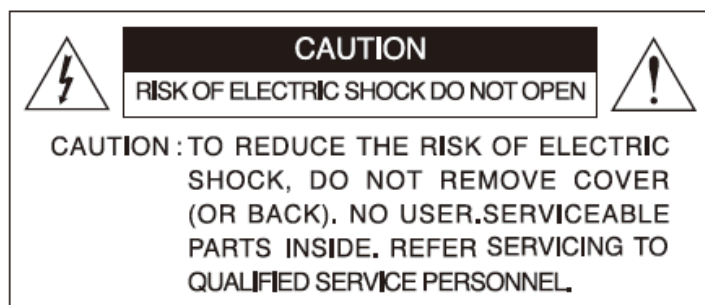


HD-SDI Camera **IMC-922** User Manual

Megapixel CMOS Box Camera



Megapixel Box Camera



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the appliance

INFORMATION - This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules & CE Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

WARNING - Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

CAUTION - To prevent electric shock and risk of fire hazards:
Do NOT use power sources other than those specified.

Before You Start

This manual should help you in the installation and set-up of the camera; and we recommend that you carefully follow the instructions described. To ensure that your warranty remains valid, please read the manual carefully before using the camera.

Precautions

- Please DO NOT disassemble, modify or repair the camera. There are no user serviceable parts inside and disassembling the camera may void the warranty. For prevention of fire or electric shock, DO NOT removes screws or covers from the camera.
- Operation in a wet environment is NOT recommended. The camera SHOULD NOT be exposed to rain or moisture.

- For prolong life and the protection of the camera's CCD, do not point the camera directly at the sun or a strong spotlight which may result in CCD blooming and permanent damage.
- DO NOT operate the camera beyond the operation temperature range stated and AVOID usage in conditions exceeding 90% humidity.
- DO NOT use an unregulated power supply source to prevent damage to the camera's circuits.
- Use soft materials such as lens tissue or cotton tipped applicator with ethanol for CCD faceplate cleaning ONLY when necessary and AVOID contact with fingers or any hard object. Do not use solvent, abrasives or detergent when cleaning the camera body.
- Warranty shall be voided for improper use of the camera caused by the user; or damage caused by other equipment due to negligence.

Warranty

We warrant the original components free of defects for one year from the purchase date. This warranty covers failures and damage due to defect, which may occur during normal use. It does not cover damages or failure resulting from mishandling, abuse, misuse or modification. An RMA number must be obtained in advance for every repair or replacement.

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1. Main Features

▶ 1/3" CMOS sensor

2.2M Pixels (Total) / 2.1M Pixels (Active)

▶ Full HD Resolution

1920x1080@30p / 1920x1080@60i / 1280x720@60p / 1920x1080@60p

▶ WDR (Wide Dynamic Range)

WDR allows a camera to filter the intense back light surrounding a subject and thus enhances the ability to distinguish features and shapes on the subject.

▶ DNR (Digital Noise Reduction, 2D/3D-NR)

DNR technology will supply you with outstanding clear images by reducing noise of picture. DNR technology has excellent disk-saving effect. IMI TECH supports brilliant DNR technologies like DNR, 3D-NR and 2D+3D.

▶ AGC (Automatic Gain Control)

AGC is circuit that automatically adjusts the incoming signal to proper level for display or recording and the sensitivity of pick-up object to render the most pleasing images. It improves performance in low light conditions.

▶ 2 Auto (AE/AWB) Control

Slow Shutter control (Sens-Up), Color temperature Range (1800K ~ 10500K).

▶ Dynamic Motion Detection (8 separable areas, Up to 1980-blocks, variable block size control)

Motion can be detected and displayed in appointed area. It is possible to set up motion detection zones user wish.

▶ Privacy Zone Masking (8 Polygon windows)

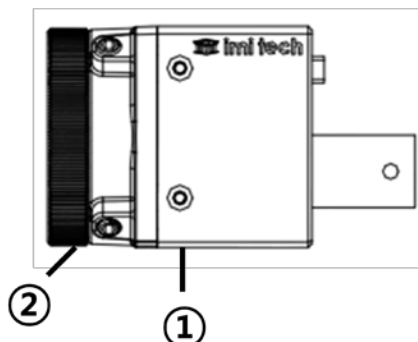
The privacy zone function makes it possible to make specific areas of the scene from view.

▶ Output

3G-SDI / HD-SDI (NTSC / PAL)

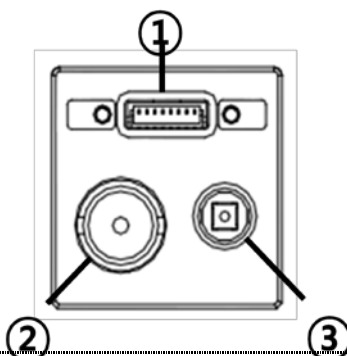
2. Name and Function of Each Part




Side



Name	Function
① Holder	For attaching a bracket to the camera
② Lens Mount	Adaptor ring is tightened for C or CS mount lens

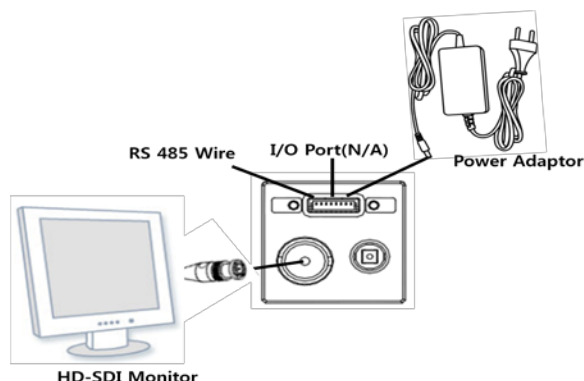
Rear



Name	Function	
① Power & I/O Port	Power Cable Connector (DC12V ~ 24V) / RS-485 + -	
② HD-SDI Video Output	BNC connector for HD-SDI video signal output	
③ SETUP Switch	Camera function control switch Press and hold the switch for more than 2 seconds, then the main menu will appear on the screen.	
		Move from left side to right side, then the menu is moved to upper menu or the parameter is changed
		Move up and down, then the menu is moved up and down
		Press and the feature is set Press it, then it is moved to sub menu

3. Other Device Connection

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3.1. Monitor Connection

Connect the HD-SDI output of the monitor to the BNC connector of the camera by Coaxial cable. If the monitor does not support HD-SDI output, you have to use HD-SDI converter. Video output type could be set as NTSC or PAL.

3.2. Video Cable Connection

Refer to following table regarding the cable. If the distance between the camera and the monitor is over maximum video transmission distance, separate video amp is required to use.

* Maximum HD-SDI transmission distance depends on cable manufacturer and installation environment.

Maximum Transmission Distance	Cable Requirement
100 ~ 140m	5C2V, 75ohm
200m	L-6CHD, 75ohm (HDTV-SDI Cable)

3.3. Power Connection

For easy installation, IMI TECH provides special power cable to connect DC jack type of power adaptor. Connect the camera to the device, which its power is turned off.

* Camera operation guarantee power: DC 12V ~ 24V $\pm 10\%$

3.4. RS-485 Connection

Using RS-485 communication, it can be possible to control OSD menu in external device.

4. OSD Menu

1. LENS	DC	INDOOR,OUTDOOR	Select DC Iris Lens(Not supported)
	P-IRIS	AUTO, MANUAL	Select P-Iris Lens(Not supported)
	MANUAL		Select Manual Iris Lens
	VIDEO		Select Video Iris Lens use(Not supported)
2. EXPOSURE	SHUTTER	AUTO	Select Auto Shutter Speed
		FLK	Flicker
		1/30~1/50000, x2~x60 0.	Shutter Speed Manual Control
	AGC	Level 1-15	Adjust Auto Gain Level
	SENS-UP	OFF, AUTO	The camera automatically detects the light level
		x2~x30	Select the level of sens-up
	BRIGHTNESS	0 ~ 100	Control the brightness
	ACCE	OFF,LOW,MIDDLE,HIGH	Adjust the level of dynamic range
	DEFOG	OFF,LOW,MIDDLE,HIGH	Adjust the level of defog function
3. BACKLIGHT	WDR	GAIN	Select Low / Middle / High
		WDR OFFSET	0~255
	BLC	GAIN	Select BLC Level
		AREA	Select Position & Size
		DEFAULT	BLC Factory Reset
	HSBLC	The high light masking function to compensate the back light	
		SELECT	Select the area (AREA1~AERA4)
		DISPLAY	Select the area maintain/remove (ON/OFF)
		LEVEL	Select the level of brightness (1~100)
		MODE	Select the activation time (ALL DAY/NIGHT)
		BLACK MASK	Select the black mask (ON/OFF)
		DEFAULT	HSBLC Factory reset
4. WHITE BAL	ATW	Auto Tracking White Balance	

	AWC → SET		Set the real environment white balance. Use the white color object and select SET button	
	INDOOR		Select this for indoor application	
	OUTDOOR		Select this for outdoor application	
	MANUAL		Select this to fine-tune White Balance manually	
5. DAY & NIGHT (Not Supported)	AUTO	DELAY	Select the duration time about changing the day/night mode	
		D → N (AGC)	Select the time about changing Day to Night mode (AGC based)	
		N → D (AGC)	Select the time about changing Night to Day mode (AGC based)	
	COLOR		Select the color mode	
	B/W	Select the B/W mode		
		BURST	Select the bust signal on/off	
		IR SMART	Not available	
		IR LED		
		IR PWM		
	EXT		Select the D/N changing mode through external signal	
6. NR	2D NR		Select 2D noise reduction mode (ON/OFF)	
	3D NR	SMART NR	Select the Smart NR mode	
		LEVEL	Select the level of DNR mode (0~100)	
		START. AGC	3DNR function Start Lvel (0~100)	
		END. AGC	Select the level of DNR mode (0~100)	
7. SPECIAL	CAM TITLE		Enter the camera title (ON/OFF)	
	D-EFFECT	FREEZE		Freeze the image (ON/OFF)
		MIRROR	MIRROR	Flip the image vertically
			V-FLIP	Flip the image vertically and horizontally
			ROTATE	Flip the image horizontally
		D-ZOOM	D-ZOOM	Select the digital zoom (X1~X62)
			PAN & TILT	Pan & Tilt movement of PIP and zoom in image
			DEFAULT	D-Zoom Factory reset
		SMART D-ZOOM		In D-Zoom Off, Select Area1/2, Display On/Off, Sensitivity(0-60), Time Setting
	NEG. IMAGE		Select the negative image (ON/OFF)	

		DIS		
	MOTION	SELECT	AREA1~AERA4	Select the area
		DISPLAY		Select the area, size and position (ON/OFF)
		SENSITIVITY		Select the sensitivity of motion recognition. (0~100)
		MOTION VIEW		Display masks on the motion detected area (ON/OFF)
		DEFAULT		Motion Factory reset
	PRIVACY	SELECT	AREA1~AERA8	Select the privacy area on the screen
		DISPLAY		Select the color , size and position (ON/OFF)
		COLOR		Select the color of privacy mask
		TRANS		
		DEFAULT		Privacy Factory reset
	LANGUAGE	ENG,JPN,CHN1,CHN2, KOR, GER, FRA, ITA, SPA, POL, RUS, POR, NED, TUR, HEB, ARB		
	DEFECT	LIVE DPC		Select the dead pixel compensation mode in real time (AUTO/OFF)
		STATIC DPC	Select the dead pixel compensation mode in static points (ON/OFF)	
			START	Start the dead pixel compensation
			LEVEL	Select the level of STATIC DPC (0~60)
			SENS-UP	Adjust the sense up value to find dead pixels (x2~x30)
		BLACK DPC	START	Start the dead pixel compensation
			LEVEL	Select the level of BLACK DPC (0~255)
			DIFF.TH	Adjust the different threshold value to find dead pixels (0~255)
	RS485	CAM ID		Select the number of camera (0~255)
		ID DISPLAY		Select the display of CAM ID (ON/OFF)
		BAUDRATE		Select the baud rate (2400~38400)
	VERSION			Display the Firmware Version
8. ADJUST	SHARPNESS	LEVEL 0-15		Adjust the level of sharpness
	MONITOR	CRT	BLACK LEVEL	Adjust the brightness (-30~+30)
			BLUE GAIN	Adjust the blue gain (-30~+30)
			RED GAIN	Adjust the red gain (-30~+30)
		LCD	GAMMA	Select the gamma value

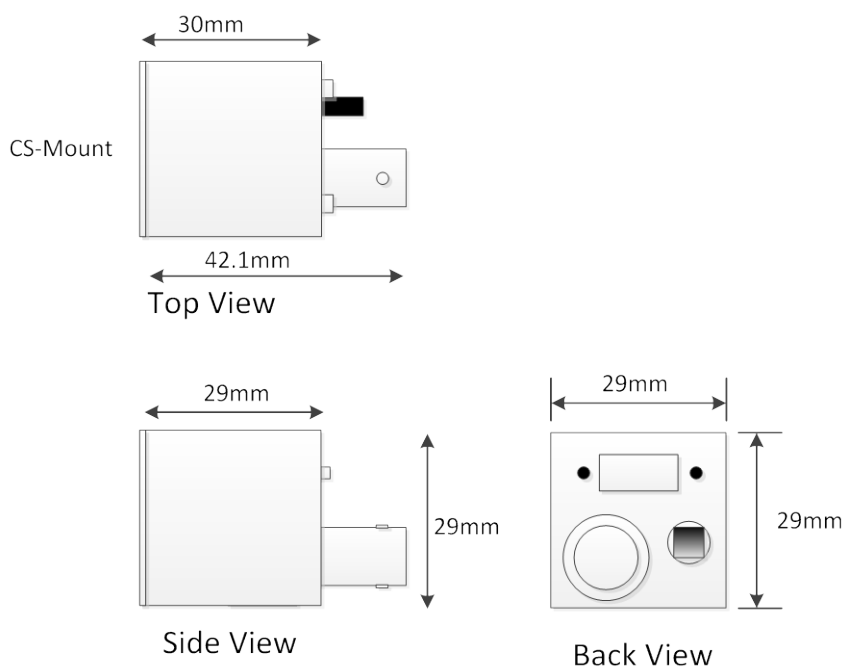
				(AUTO/USER1/USER+Y/0.45~1.00)
			BLUE GAIN	Adjust the blue gain (0~100)
			RED GAIN	Adjust the red gain (0~100)
	OSD	TEXT COLOR		Select the OSD test color (0~8)
		OUTLINE		Select the OSD test outline (ON/OFF)
	LSC	Select the lens shading compensation (ON/OFF)		
	VIDEO.OUT	Select NTSC/PAL		
9. RESET	FACTORY	Reset the camera settings to the factory defaults.		
10. EXIT				Exit the Main SETUP menu

5. Specifications

Items	Description
Image Sensor	
Scanning System	Progressive, Interlace
Effective Pixels Number	1,920(H) x 1,080(V), 2.07M Pixels (Full-HD)
Total number of pixels	1,952(H) x 1,116(V), 2.18M Pixels (Full-HD)
Lens Mount	C/CS Mount
Video Output Mode	HD-SDI : 1920x1080p(30fps), 1920x1080i(60fps), 1920x1280x720p(60fps) 3G-SDI : 1920x1080p(60fps)
Video Output Level	HD-SDI, 3G-HDI / 1.0 Vp-p (75 Ω , Composite) NTSC/PAL(Selectable)
Min. Illumination	Color : 0.2Lux @ F1.2 / B/W : 0.01@F1.2
OSD	Built-in
Electronic Shutter Speed	Auto / Manual (1/30 ~ 1/50,000)
White Balance	ATW / AWC / Indoor / Outdoor / Manual
Back Light Compensation	Off / WDR / BLC / HSBL
D-WDR/ACCE	Low / Middle / High / Off, 0~15 steps
AGC	0~15 steps
Adjust	SHARPNESS / MONITOR / OSD / LSC / VIDEO OUT(NTSC/PAL)
Language	ENG, JPN, CHN, KOR, GER, FRA, ITA, SPA, POL, RUS, POR, NED, TUB, HER, ARB(Directional Switches)
Day & Night	Auto / B.W / Color / EXT (Selectable)
2D/3D-NR	2DNR / 3DNR / SMART NR
Digital Zoom / PIP	On / Off(x2 ~ x64)
Privacy Masking	On / Off (8 Zone Selectable)
Motion Detection	On / Off (4 Zone Selectable)
Defect	LIVE DPC / STATIC DPC / BLACK DPC
Defog	Low / Middle / High / Off(Position/Size- User Setting)
Sens - up	Auto (Selectable limit ~ x30) / Off
D - EFFECT	Freeze / Mirror / D-Zoom / NEG.IMAGE
Protocol	Pelco-D / Pelco-P
Communication	RS-485[Baud Rate : 2400~38400]
Power	DC12V ~ 24V \pm 10%, 2.3W(1080p/30fps), 3.3W(1080p/60fps)

Operating / Storage Temperature	-5°C ~ +50°C (Humidity: 0%RH ~ 80%RH) -20°C ~ +60°C (Humidity: 0%RH ~ 90%RH)
Dimension	29mm X 29mm X 29mm (Connector, C/CS mount excluded.)
Weight	Approx. 40g

6. Dimension



7. Technical Support

IMI ensures the conformity of our product to be reliable and free from defects during manufacturing by testing all the cameras before release. However, unexpected problems and technical issues may come up due to the complexity of the product. In case you require technical support; contact the agent near you :

Opto Vision France

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